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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,733	12/05/2003	Eric M. Rohrbaugh	2507-6021US (22029-US)	1717
24247	7590	06/23/2005		
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			EXAMINER GARTENBERG, EHUD	
			ART UNIT	PAPER NUMBER
			3746	
DATE MAILED: 06/23/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,733

Applicant(s)

ROHRBAUGH ET AL.

Examiner

Ehud Gartenberg

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on papers filed through 6/13/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 40-49 is/are pending in the application.
- 4a) Of the above claim(s) 6-18, 22, 23, 25-35 and 47-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 19-21, 24 and 40-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. In a species election filed 5/2/2005, applicant elected (without traverse) for prosecution the species of Fig. 13, that discloses a two-grain solid rocket motor having an axial, variable-area nozzle and two lateral valves 28, 30 connected to maneuver thrusters, and under-barrier igniters (paragraph 27, ll. 7-10 of the paragraph, and paragraph 43). According to Applicant, claims 1-35 and claims 40-49 read on the elected species. Applicant canceled claims 36-39. In response to a restriction requirement filed 6/13/2005, Applicant elected without traverse the invention of claims 1-24 and 40-49. Applicant withdrew from further prosecution at this time claims 25-35. A further inspection by the Examiner noticed that claims 6-18, 22-23, 47-49 also do not read on the elected species of Fig. 13. Therefore, claims 6-18, 22-23, 47-49 were withdrawn from consideration by the Examiner at this time. Claims 1-5, 19-21, 24, 40-46 are examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 43 and 46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

invention. Regarding claim 43, if the state wherein the axial thrust valve is open and the maneuver control valves are closed permits combustion, and the further opening of all maneuver control valves causes combustion termination, then the opening of the axial valve and only one maneuver valve should also permit further combustion, in contradiction with the claim that the lowest combustion rate occurs only when the axial thrust valve is open and the maneuver control valves are all closed. It is also noted that such a claim language can be interpreted as a desired result, and given little patentable weight in view of the prior art. Claim 46 is rejected because the description fails to enable how to modulate the flow area (the enablement - not the idea) in order to compensate for temperature effects of the grain.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(f) he did not himself invent the subject matter sought to be patented.

5. Claims 1-5, 19-21, 24, 40-46 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. In the IDS filed, Applicant filed a reference titled "Advanced Carbon Fiber Reinforced" by Fiber Materials, Inc. This reference discloses on p. 3, Fig.1 the invention as disclosed and as claimed, with the

exception of the axial thruster that is taught in Figures 2 and 3. The answers to the following questions are considered pertinent to the continuation of the prosecution of the present application: 1) When and under what circumstances the Applicant obtained said reference; 2) Whether the design of the invention as disclosed was in response to a government or any other customer specification, and whether the invention as claimed reads on said specification. Applicant's answers are requested.

6. Claims 1-5, 19-21, 40-42, 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by McDonald 4,840,024 that teaches in Fig.1 the invention as claimed: a propulsion system comprising a pressure vessel 12, 48, at least on solid propellant grain 52, 42, 34, the last two being separated by barrier 30, each grain having a separate igniter 54, 36, 46, one axial thrust valve and maneuver control valve 58, where the individual valves are read on the individually controled ports of valve 58, col. 6, l. 1 et seq., valves 58 being proportional (col. 7, ll. 6-7), valve 58 being in communication with thruster 42 located and oriented to provide axial thrust, wherein valves 58 can open simultaneously to terminate the combustion, col. 7, ll. 19 et seq. Regarding claim 40, McDonald teaches a first grain 24, a second grain 42, a flame-inhibiting barrier in-between 30, and proportional valves 58 associated therewith. Regarding claims 42, and 44-45, McDonald teaches the solid propellant charge 52, and the remainder of the limitations as discussed above.

It is noted that the claims not being distinct, the invention as claimed reads on and is anticipated by inventions that are different from the invention as disclosed.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDonald as discussed above, and further because it would have been obvious to one of ordinary skill in the art to put his propulsion system in the one housing of the one vehicle or satellite being served by said system, because the system cannot be shared by multiple vehicles or satellites.

Conclusion

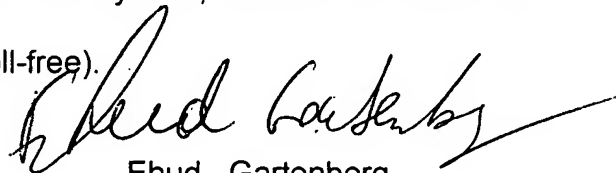
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Denoel 5765367, Kirschner 4011720.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ehud Gartenberg whose telephone number is 571 272 4828. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on 571 272 4444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Ehud Gartenberg", with a long horizontal flourish extending to the right.

Ehud Gartenberg
Primary Examiner
Art Unit 3746

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